L Number	Hits	Search Text	DB	Time stamp
-	7	"5823758"	USPAT; US-PGPUB	2004/04/17 09:56
-	4	"2596450"	USPAT; US-PGPUB	2004/04/17 10:03
-	1852	hydrotreat$ same distillate	USPAT; US-PGPUB	2004/04/17 10:08
-	515	vapor same phase same inhibitor	USPAT; US-PGPUB	2004/04/17 10:09
-	1	(hydrotreat$ same distillate) and (vapor same phase same inhibitor)	USPAT; US-PGPUB	2004/04/17 10:04
-	52	(hydrotreat$ same distillate) and 44/$.ccls.	USPAT; US-PGPUB	2004/04/17 10:04
-	3	hydrotreat$ and (vapor same phase same inhibitor)	USPAT; US-PGPUB	2004/04/17 10:08
-	307	vapor with phase with inhibitor	USPAT; US-PGPUB	2004/04/17 10:09
-	1	(hydrotreat$ same distillate) and (vapor with phase with inhibitor)	USPAT; US-PGPUB	2004/04/17 10:09
-	363	hydrotreat$ same distillate	EPO; JPO; DERWENT	2004/04/17 10:10
-	355	vapor with phase with inhibit$	EPO; JPO; DERWENT	2004/04/17 10:10
-	1	(hydrotreat$ same distillate) and (vapor with phase with inhibit$)	EPO; JPO; DERWENT	2004/04/17 10:10
-	1	hydrotreat$ and (vapor with phase with inhibit$)	EPO; JPO; DERWENT	2004/04/17 10:10
-	42	hydrotreat$ and amine	EPO; JPO; DERWENT	2004/04/17 10:11
-	128579	surfactant	EPO; JPO; DERWENT	2004/04/17 10:11
-	3	(hydrotreat$ and amine) and surfactant	EPO; JPO; DERWENT	2004/04/17 10:14
-	3	(hydrotreat$ same distillate) and surfactant	EPO; JPO; DERWENT	2004/04/17 10:15
-	701	petroleum with amine	EPO; JPO; DERWENT	2004/04/17 10:15
-	1	(vapor with phase with inhibitor) and ((petroleum with amine) and 44/$.ccls.)	USPAT; US-PGPUB	2004/04/17 10:16
-	132	(petroleum with amine) and 44/$.ccls.	USPAT; US-PGPUB	2004/04/17 10:20
-	46	((petroleum with amine) and 44/$.ccls.) and (surfactant or emulsifier or "surface active")	USPAT; US-PGPUB	2004/04/17 10:21

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	JAN 27	Source of Registration (SR) information in REGISTRY updated and searchable
NEWS 4	JAN 27	A new search aid, the Company Name Thesaurus, available in CA/CAplus
NEWS 5	FEB 05	German (DE) application and patent publication number format changes
NEWS 6	MAR 03	MEDLINE and LMEDLINE reloaded
NEWS 7	MAR 03	MEDLINE file segment of TOXCENTER reloaded
NEWS 8	MAR 03	FRANCEPAT now available on STN
NEWS 9	MAR 29	Pharmaceutical Substances (PS) now available on STN
NEWS 10	MAR 29	WPIFV now available on STN
NEWS 11	MAR 29	No connect hour charges in WPIFV until May 1, 2004
NEWS 12	MAR 29	New monthly current-awareness alert (SDI) frequency in RAPRA

NEWS EXPRESS	MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 13 APRIL 2004
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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FILE 'HOME' ENTERED AT 09:47:31 ON 17 APR 2004

=> **file caplus**

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'CAPLUS' ENTERED AT 09:48:12 ON 17 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 17 Apr 2004 VOL 140 ISS 17
FILE LAST UPDATED: 16 Apr 2004 (20040416/ED)

h eb c g cg b cg eb

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s hydrotreat? (p) distillate
          8077 HYDROTREAT?
         39871 DISTILLATE
         14000 DISTILLATES
         48070 DISTILLATE
                 (DISTILLATE OR DISTILLATES)
L1         919 HYDROTREAT? (P) DISTILLATE

=> s aromatic or hydrocarbon
        214025 AROMATIC
          9363 AROMATICS
        218325 AROMATIC
                 (AROMATIC OR AROMATICS)
        279182 AROM
         14249 AROMS
        286609 AROM
                 (AROM OR AROMS)
        405448 AROMATIC
                 (AROMATIC OR AROM)
        306184 HYDROCARBON
        305126 HYDROCARBONS
        470465 HYDROCARBON
                 (HYDROCARBON OR HYDROCARBONS)
L2      758652 AROMATIC OR HYDROCARBON

=> s vapor (P) phase (P) inhibitor
        457272 VAPOR
         68150 VAPORS
        497663 VAPOR
                 (VAPOR OR VAPORS)
       1485014 PHASE
        315735 PHASES
       1618967 PHASE
                 (PHASE OR PHASES)
        439104 INHIBITOR
        459830 INHIBITORS
        708465 INHIBITOR
                 (INHIBITOR OR INHIBITORS)
L3         611 VAPOR (P) PHASE (P) INHIBITOR

=> s surfactant or emulsifier or surface active
        158103 SURFACTANT
        141852 SURFACTANTS
        200300 SURFACTANT
                 (SURFACTANT OR SURFACTANTS)
         29729 EMULSIFIER
         18128 EMULSIFIERS
         37896 EMULSIFIER
                 (EMULSIFIER OR EMULSIFIERS)
       1923294 SURFACE
        374304 SURFACES
       2076750 SURFACE
                 (SURFACE OR SURFACES)
        820500 ACTIVE
           684 ACTIVES
        820888 ACTIVE
                 (ACTIVE OR ACTIVES)
         30322 SURFACE ACTIVE
                 (SURFACE(W)ACTIVE)
L4      249570 SURFACTANT OR EMULSIFIER OR SURFACE ACTIVE
```

h eb c g cg b cg eb

```
=> s l1 and l2 and l3 and l4
L5            1 L1 AND L2 AND L3 AND L4

=> d l5 ti

L5   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2004 ACS on STN
```

Citing References

```
TI   hydrotreated distillates-amines-surfactants as additive packages for
     hydrocarbon fuels


=> d l5 all

L5   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2004 ACS on STN
```

Full Text | Citing References

```
AN   2002:964703  CAPLUS
DN   138:41836
ED   Entered STN:  20 Dec 2002
TI   hydrotreated distillates-amines-surfactants as additive packages for
     hydrocarbon fuels
IN   Lack, Lloyd R.
PA   USA
SO   U.S. Pat. Appl. Publ., 3 pp.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  C10L001-10
NCL  044310000
CC   51-11 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
     ---------------   ----  --------       ---------------   --------
PI   US 2002189156      A1   20021219       US 2002-75506     20020213
PRAI US 2001-288812P    P    20010504
AB   Hydrocarbon fuels (e.g., based on propane and LPG) are composed of a
     60-76 vol.% of a hydrocarbon mixt., 10-16 vol.% of a hydrotreated
     distillate, a vapor-phase inhibitor (increasing additive), and an
     anionic or an ionic surfactant.  Suitable additives include
     petroleum-derived amines and arom. hydrocarbons.  The additives
     function as combustion improvers.
ST   hydrocarbon fuel additive hydrotreated distillate surfactant;
     vapor phase inhibitor hydrocarbon fuel combustion improver;
     propane fuel additive hydrotreated distillate amine; LPG fuel additive
     hydrotreated distillate amine
IT   Surfactants
        (anionic; hydrotreated distillates-amines-
        surfactants as additive packages for hydrocarbon
        fuels)
IT   Fuel additives
        (combustion improvers; hydrotreated distillates
        -amines-surfactants as additive packages for
        hydrocarbon fuels)
IT   Petroleum products
        (distillates, hydrotreated; hydrotreated
        distillates-amines-surfactants as additive packages
        for hydrocarbon fuels)
IT   Petroleum products
        (gases, liquefied; hydrotreated distillates-amines-
        surfactants as additive packages for hydrocarbon
        fuels)
IT   Aromatic hydrocarbons, uses
```

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RL: MOA (Modifier or additive use); USES (Uses)
(**hydrotreated distillates**-amines-**surfactants** as additive packages for **hydrocarbon** fuels)

IT **Surfactants**
(ionic; **hydrotreated distillates**-amines-**surfactants** as additive packages for **hydrocarbon** fuels)

IT Amines, uses
RL: MOA (Modifier or additive use); USES (Uses)
(petroleum-derived; **hydrotreated distillates**-amines-**surfactants** as additive packages for **hydrocarbon** fuels)

IT 74-98-6, LPG, uses 106-97-8, LPG, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**hydrotreated distillates**-amines-**surfactants** as additive packages for **hydrocarbon** fuels)

=> **s petroleum (p) amine**
274409 PETROLEUM
5959 PETROLEUMS
274776 PETROLEUM
(PETROLEUM OR PETROLEUMS)
243949 AMINE
232951 AMINES
375118 AMINE
(AMINE OR AMINES)
L6 3525 PETROLEUM (P) AMINE

=> **s l6 and l1**
L7 2 L6 AND L1

=> **d l7 1-2 ti**

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
Citing References
TI **hydrotreated distillates**-amines-surfactants as additive packages for hydrocarbon fuels

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
Citing References
TI Behavior of nitrogen compounds during hydrorefining of Khafji atmospheric residuum

=> **s l6 and fuel**
330802 FUEL
152588 FUELS
379049 FUEL
(FUEL OR FUELS)
L8 339 L6 AND FUEL

=> **s l8 and LPG**
3663 LPG
52 LPGS
3686 LPG
(LPG OR LPGS)
L9 6 L8 AND LPG

=> **d l9 1-6 all**

h eb c g cg b cg eb

L9 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

AN 2002:964703 CAPLUS
DN 138:41836
ED Entered STN: 20 Dec 2002
TI hydrotreated distillates-amines-surfactants as additive packages for hydrocarbon **fuels**
IN Lack, Lloyd R.
PA USA
SO U.S. Pat. Appl. Publ., 3 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C10L001-10
NCL 044310000
CC 51-11 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002189156	A1	20021219	US 2002-75506	20020213
PRAI	US 2001-288812P	P	20010504		

AB Hydrocarbon **fuels** (e.g., based on propane and **LPG**) are composed of a 60-76 vol.% of a hydrocarbon mixt., 10-16 vol.% of a hydrotreated distillate, a vapor-phase inhibitor (increasing additive), and an anionic or an ionic surfactant. Suitable additives include **petroleum**-derived **amines** and arom. hydrocarbons. The additives function as combustion improvers.
ST hydrocarbon **fuel** additive hydrotreated distillate surfactant; vapor phase inhibitor hydrocarbon **fuel** combustion improver; propane **fuel** additive hydrotreated distillate amine; **LPG fuel** additive hydrotreated distillate amine
IT Surfactants
(anionic; hydrotreated distillates-amines-surfactants as additive packages for hydrocarbon **fuels**)
IT **Fuel** additives
(combustion improvers; hydrotreated distillates-amines-surfactants as additive packages for hydrocarbon **fuels**)
IT **Petroleum** products
(distillates, hydrotreated; hydrotreated distillates-**amines**-surfactants as additive packages for hydrocarbon **fuels**)
IT **Petroleum** products
(gases, liquefied; hydrotreated distillates-**amines**-surfactants as additive packages for hydrocarbon **fuels**)
IT Aromatic hydrocarbons, uses
RL: MOA (Modifier or additive use); USES (Uses)
(hydrotreated distillates-amines-surfactants as additive packages for hydrocarbon **fuels**)
IT Surfactants
(ionic; hydrotreated distillates-amines-surfactants as additive packages for hydrocarbon **fuels**)
IT **Amines**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**petroleum**-derived; hydrotreated distillates-**amines**-surfactants as additive packages for hydrocarbon **fuels**)
IT 74-98-6, **LPG**, uses 106-97-8, **LPG**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(hydrotreated distillates-amines-surfactants as additive packages for hydrocarbon **fuels**)

L9 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

h eb c g cg b cg eb

AN 2001:265300 CAPLUS
DN 134:283155
ED Entered STN: 13 Apr 2001
TI Removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines
IN Wagner, Rupert; Hugo, Randolf; Holst, Thomas S.
PA BASF A.-G., Germany
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM B01D053-14
ICS C10L003-10; B01D011-04
CC 51-11 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 48
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001024912	A1	20010412	WO 2000-EP9704	20001004
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	DE 19947845	A1	20010412	DE 1999-19947845	19991005
	EP 1227873	A1	20020807	EP 2000-979483	20001004
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	NO 2002001590	A	20020531	NO 2002-1590	20020404
PRAI	DE 1999-19947845	A	19991005		
	WO 2000-EP9704	W	20001004		

AB A scrubbing method for removal of COS and addnl. acid gases (e.g., CO2, H2S, mercaptans, etc.) from a hydrocarbon-contg. stream consists of scrubbing with an aq. soln. (1.5-5 M) of a C2-12-aliph. alkanolamine and 0.4-1.7 M of a primary or secondary amine activator. The amine activator can be a 5- or 6-membered nitrogen heterocycle, optionally contg. oxygen. Suitable alkanolamines include methyldiethanolamine and triethanolamine; suitable activators include ethanolamine, methylethanolamine, diethanolamine, piperazine, methylpiperazine, and morpholine. The method is suited for scrubbing of natural gas, synthesis gas (esp. prepd. from heavy oil or residues), **LPG**, or natural gas liqs.

ST carbonyl sulfide removal alkanolamine scrubbing; hydrogen sulfide removal alkanolamine scrubbing; acid gas removal **fuel** gas scrubbing; **fuel** gas alkanolamine scrubbing; heterocyclic amine alkanolamine **fuel** gas scrubbing

IT Alcohols, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(amino, C2-12, scrubbing solvents; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT Scrubbing
(aq.; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT **Petroleum** products
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)
(gases, liquefied, scrubbing of; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic **amines**)

IT Heterocyclic compounds

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RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(nitrogen, five-membered, scrubbing activators; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT Heterocyclic compounds
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(nitrogen, scrubbing activators; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT Heterocyclic compounds
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(nitrogen-oxygen, scrubbing activators; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT Natural gas, preparation
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)
(processing, scrubbing of; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT Thiols (organic), processes
RL: PEP (Physical, engineering or chemical process); REM (Removal or disposal); PROC (Process)
(removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT Synthesis gas
(scrubbing of; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT Natural gas condensates
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)
(scrubbing of; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT **Petroleum** refining
(scrubbing, of **fuel** gases; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic **amines**)

IT Amines, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(secondary, scrubbing activators; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT Amines, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(tertiary, scrubbing activators; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT 124-38-9, Carbon dioxide, processes 463-58-1, Carbonyl sulfide 7783-06-4, Hydrogen sulfide, processes
RL: PEP (Physical, engineering or chemical process); REM (Removal or disposal); PROC (Process)
(removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT 109-83-1, Monomethylethanolamine 110-85-0, Piperazine, uses 110-91-8, Morpholine, uses 111-42-2, Diethanolamine, uses 141-43-5, Monoethanolamine, uses 27323-66-6, Piperazine, methyl-
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical

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process); PROC (Process); USES (Uses)
(scrubbing activators; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

IT 102-71-6, Triethanolamine, uses 105-59-9, Methyldiethanolamine
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(scrubbing solvents; removal of carbonyl sulfide and acid gases from hydrocarbon fluids by scrubbing with alkanolamines and heterocyclic amines)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Appl; US 4336233 A 1982 CAPLUS
(2) Gerhardt; US 4999031 A 1991 CAPLUS
(3) Peytavy; US 5348714 A 1994 CAPLUS
(4) Union Carbide Chemicals & Plastics Technology Corporation; WO 0066249 A 2000 CAPLUS

L9 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

AN 1997:686130 CAPLUS
DN 127:320568
ED Entered STN: 30 Oct 1997
TI Treat **LPGs** with amines
AU Nielsen, R. B.; Rogers, J.; Bullin, J. A.; Duewall, K. J.
CS Fluor Daniel, Inc., Irvine, CA, USA
SO Hydrocarbon Processing, International Edition (1997), 76(9), 49-50, 53-54, 56, 58-59
CODEN: IHPRBS; ISSN: 0018-8190
PB Gulf Publishing
DT Journal; General Review
LA English
CC 51-0 (Fossil Fuels, Derivatives, and Related Products)
AB A review, with 26 refs., of the fundamental aspects of **LPG** amine treaters and guidelines, design considerations and alternatives for static mixers, jet eductor mixers and columns with structured packing, random packing and sieve trays. All of these current design methods are compared based on plant operating data.
ST **LPG** sweetening amine review
IT Packing materials (beds)
Sweetening agents
(**LPG** sweetening with amines)
IT Amines, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**LPG** sweetening with amines)
IT **Petroleum** products
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(gases, liquefied; **LPG** sweetening with **amines**)
IT Plates
(sieve; **LPG** sweetening with amines)
IT Mixers (processing apparatus)
(static; **LPG** sweetening with amines)
IT **Fuel** gas manufacturing
(sweetening in; **LPG** sweetening with amines)
IT 105-59-9 111-42-2, Diethanolamine, uses 141-43-5, uses 929-06-6, Diglycolamine
RL: NUU (Other use, unclassified); USES (Uses)
(**LPG** sweetening with amines)
IT 124-38-9, Carbon dioxide, processes 463-58-1, Carbonyl sulfide 7783-06-4, Hydrogen sulfide, processes
RL: REM (Removal or disposal); PROC (Process)
(**LPG** sweetening with amines)

h eb c g cg b cg eb

L9 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

AN 1990:518258 CAPLUS
DN 113:118258
ED Entered STN: 29 Sep 1990
TI Removal of organic sulfur compounds from gases
IN Nakajima, Susumu; Wakitani, Yoshiaki
PA Kawasaki Steel Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B01D053-14
ICS B01D053-34; C10G019-02; C10G053-02
CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 59
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02014714	A2	19900118	JP 1988-163631	19880630
	JP 07090139	B4	19951004		
PRAI	JP 1988-163631		19880630		

AB A dry-type method for removing org. S compds., esp. COS and CS2, from coke-oven gas, **LPG**, blast-furnace gas or flue gases, etc., comprises (a) contacting the feed gas with a 1st adsorbent contg. secondary amines (e.g., diethanolamine or diphenylamine) in a 1st stage to remove most CS2 and to decomp. the remaining CS, (b) contacting the treated gas with a 2nd adsorbent contg. diglycolamine in a 2nd stage to remove the formed H2S from the COS decompn., and (c) passing the treated gas through a fixed bed of catalysts contg. Fe oxide in a 3rd stage to completely remove residual H2S.

ST coke oven gas desulfurization adsorbent; diethanolamine adsorbent carbon disulfide removal; carbonyl sulfide removal flue gas

IT **Petroleum** gases, liquefied
RL: USES (Uses)
(org. sulfur compd. removal from, adsorbents contg. secondary **amines** for)

IT **Fuel** gases
(coke-oven, org. sulfur compd. removal from, adsorbents contg. secondary amines for)

IT Flue gases
(industrial, org. sulfur compd. removal from, adsorbents contg. secondary amines for)

IT Amines, uses and miscellaneous
RL: USES (Uses)
(secondary, adsorbents contg., for removing carbon disulfide from coke-oven or flue gases)

IT 111-42-2, uses and miscellaneous
RL: USES (Uses)
(adsorbent contg., on calcium silicate supports, for removing carbon disulfide from coke-oven or flue gases)

IT 929-06-6
RL: USES (Uses)
(adsorbent contg., on iron oxide supports, for removing org. sulfur compds. from coke-oven or flue gases)

IT 1332-37-2, Iron oxide, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts contg., for removing hydrogen sulfide, in gas purifn.)

IT 463-58-1, Carbonyl sulfide
RL: RCT (Reactant); RACT (Reactant or reagent)
(decompn. of, hydrogen sulfide from, removal of, diglycolamine-contg. adsorbent for)

IT 7783-06-4P, Hydrogen sulfide (H2S), uses and miscellaneous

h eb c g cg b cg eb

RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, from carbonyl sulfide decompn., in removal of org. sulfur compds. from coke-oven or flue gases)
IT 63143-57-7, Carbon sulfide
RL: REM (Removal or disposal); PROC (Process)
(removal of, from coke-oven gas or flue gases, adsorbents for)

L9 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References
AN 1982:408769 CAPLUS
DN 97:8769
ED Entered STN: 12 May 1984
TI New low-investment process to recover liquids from refinery **fuel** gas being used in Texas
AU Rowell, Rex L.
CS PCI Consult. Inc., Houston, TX, USA
SO Oil & Gas Journal (1982), 80(19), 127-31
CODEN: OIGJAV; ISSN: 0030-1388
DT Journal
LA English
CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
AB Hydrocarbon liqs. are recovered and gas streams are sepd. from **petroleum**-cracking and catalytic-reforming off-gases in a multistep cryogenic process. **Amine**-scrubbed gases are expanded with partial condensation (exit temps. -150° to -200°F and dried. The final step is demethanization (or deethanization), in which **LPG** and gasoline liqs. are sepd. for further fractionation from C1 and C2 fractions. The process is further characterized by low capital investment and short payout periods. Material balances for various phases of operation are also given.
ST petroleum refinery gas sepn; refinery gas sepn cryogenic; **LPG** cryogenic recovery refinery gas; gasoline cryogenic recovery refinery gas
IT Gasoline
Petroleum gases, liquefied
RL: PROC (Process)
(recovery of, from cracking and catalytic-reforming off-gases, cryogenic process for)
IT Petroleum refining
(gas-liq. sepn., of cracking and catalytic-reforming off-gases, cryogenic process for)
IT Petrochemicals
(light olefins, recovery of, from cracking and catalytic-reforming off-gases, cryogenic process for)

L9 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References
AN 1972:517808 CAPLUS
DN 77:117808
ED Entered STN: 12 May 1984
TI Control of vehicular air pollution through modifications to conventional power plants and their **fuels**
AU Quick, Stephen L.; Kittredge, George D.
CS Natl. Air Pollut. Control Adm., Ann Arbor, MI, USA
SO Proc. Int. Clean Air Congr., 2nd (1971), Meeting Date 1970, 631-9.
Editor(s): Englund, H. M. Publisher: Academic, New York, N. Y.
CODEN: 25JQAO
DT Conference
LA English
CC 59-2 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 51, 67
AB Investigations carried out by the Natl. Air Pollution Control Adm. (NAPCA) are reviewed. Two control techniques are considered, viz., those based on

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(1) engine modification and (2) **fuel** modification. The former approach includes removal of gaseous pollutant emissions from the exhaust system, provides induction system improvement designed to permit better atomization, and removal of particulates from the exhaust stream. Fe-base alloys and a nonmetallic reactor development program are expected to yield economical high-temp. reactors. Catalytic control devices esp. for N oxides are studied with rare earth metal oxides as the significant catalysts. Atomization devices producing 10-20-μ droplets are most promising in achieving improved distribution of the **fuel**-air mixt. A spinning disk atomizer operating at 45,000 rpm produces 20-μ droplets with a 2-in. diam. disk. The high speed is achieved with either an elec. motor or an air turbine. Alternate **fuels** for emission control include liquefied **petroleum** gas (**LPG**), liquefied and compressed natural gas (LNG and CNG), alcs., ethers, NH3, **amines**, and hydrazines. LNG and CNG are advantageous owing to the clean burning characteristics of gaseous **fuels**, NAPCA does not recommend dual **fuel** systems. Other promising **fuels** are MeOH and H.

ST vehicular air pollution control; catalyst vehicular air pollution; **petroleum** gas vehicular **fuel**; natural gas vehicular **fuel**; alc vehicular **fuel**; ether vehicular **fuel**; ammonia vehicular **fuel**; **amine** vehicular **fuel**; hydrazine vehicular **fuel**; methanol vehicular **fuel**; hydrogen vehicular **fuel**

IT **Fuels**
(air pollution control in relation to vehicular)

IT Engines
(design of, air pollution in relation to)

IT Exhaust gases
(treatment of)

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FILE 'CAPLUS' ENTERED AT 09:48:12 ON 17 APR 2004

L1 919 S HYDROTREAT? (P) DISTILLATE
L2 758652 S AROMATIC OR HYDROCARBON
L3 611 S VAPOR (P) PHASE (P) INHIBITOR
L4 249570 S SURFACTANT OR EMULSIFIER OR SURFACE ACTIVE
L5 1 S L1 AND L2 AND L3 AND L4
L6 3525 S PETROLEUM (P) AMINE
L7 2 S L6 AND L1
L8 339 S L6 AND FUEL
L9 6 S L8 AND LPG

=> s l1 and l6
L10 2 L1 AND L6

=> s l6 and l3
L11 3 L6 AND L3

=> d l11 1-3 ti

L11 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

Citing References

TI hydrotreated distillates-amines-surfactants as additive packages for hydrocarbon fuels

L11 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

Citing References

TI Organic nitrogen compounds as corrosion inhibitors for crude oil processing

h eb c g cg b cg eb

L11 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
Citing References
TI Organic coatings with a **vapor-phase** corrosion **inhibitor**

=> d l11 2 3 all

L11 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References
AN 1969:13219 CAPLUS
DN 70:13219
ED Entered STN: 12 May 1984
TI Organic nitrogen compounds as corrosion inhibitors for crude oil processing
AU Wingerter, K. H.; Becker, F. J.
CS Komb. "Otto Grotewohl", Boehlen, Ger. Dem. Rep.
SO Conf. Chem. Chem. Process. Petrol. Natur. Gas, Plenary Lect., Budapest (1968), Meeting Date 1965, 959-66. Editor(s): Freund, Michael. Publisher: Akad. Kiado, Budapest, Hung.
CODEN: 20GJAN
DT Conference
LA German
CC 51 (Petroleum, Petroleum Derivatives, and Related Products)
AB A discussion was presented of the protection by N-contg. **inhibitors** of overhead **petroleum** distn. equipment against corrosion by chlorides, naphthenic acids, and S compds. Com. **inhibitors** such as Conrad R, Kontol, Nalco 161 AC, and synthesized compds. such as alkylamines, fatty **amines**, ethanolamine, ethylenediamine, morpholine, trialkyltriazines, alkylimidazolines, dicyclohexylamine, pyridine, quinoline, and aromatic **amines**, were tested in liq. (oil and water) and **vapor phase** by static and dynamic tests. The effect of HCl and H2S at different temps. on metal strips was detd. C14-18 fatty **amines** offered the best results (~65% redn.).
ST corrosion inhibitors **petroleum**; fatty **amines** corrosion inhibitors
IT **Amines**, uses and miscellaneous
RL: USES (Uses)
(as corrosion inhibitors in **petroleum** refining)
IT Petroleum refining
(corrosion inhibitors for, nitrogen compds. as)
IT Nitrogen
RL: USES (Uses)
(as corrosion inhibitors in petroleum refining)

L11 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References
AN 1952:56012 CAPLUS
DN 46:56012
OREF 46:9324f-h
ED Entered STN: 22 Apr 2001
TI Organic coatings with a **vapor-phase** corrosion **inhibitor**
IN Wachter, Aaron; Stillman, Nathan
PA Shell Development Co.
DT Patent
LA Unavailable
CC 26 (Paints, Varnishes, and Lacquers)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2596450		19520513	US	

AB Strippable and nonstrippable, mainly transparent, org. coatings are

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inhibited against the corrosion of ferrous and nonferrous metals with N-base nitrite salt **vapor-phase** corrosion **inhibitors**. Only dicycloalkyl **amine** nitrites are claimed, dicyclohexylamine nitrite in particular, by using 2-20 parts by wt. of **inhibitor** to 100 parts by wt. of coating material. The possible use of many more similar compds. is mentioned in which the nitrite salt of a primary, secondary, or tertiary **amine** is formed. Derivs. of quaternary ammonium bases including pyridinium bases are also given. The importance of a pH not lower than 6 in the inhibited coating is emphasized. The base coatings are mainly alkyl resin or ethylcellulose coats, hut the possible use of others, such as waxes, lacquers, paint bases with and without pigments, and asphalt emulsions, is also mentioned. The use of solvents, such as EtOH, amyl acetate, benzene, and **petroleum** naphtha, is given in the examples.

IT Nitrites
(corrosion-inhibiting org.)

IT Coating(s)
(corrosion-preventing or -resistant, from alkyd resins or ethylcellulose, contg. dicycloalkyl amine nitrites or quaternary ammonium bases as inhibitors)

IT Amines
(nitrites, corrosion inhibitors from)

IT Corrosion
(prevention of, dicycloalkyl amine nitrites and derivs. of quaternary ammonium bases for)

IT Piperidine, 2,2,6,6-tetramethyl-, nitrite
(corrosion inhibition by)

IT 9004-57-3, Cellulose, ethyl ether
(coatings from, contg. dicycloalkyl amine and quaternary ammonium compds. as corrosion inhibitors)

IT 14798-03-9, Ammonium
(compds., substituted, coatings contg. vapor-phase corrosion-inhibiting)

IT 3129-91-7, Dicyclohexylamine, nitrite
(corrosion-prevention compns. contg.)

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	60.10	60.31

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-6.24	-6.24

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LAST RELOADED: Apr 12, 2004 (20040412/UP).

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FULL ESTIMATED COST	0.66	60.97

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-6.24

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FILE COVERS 1907 - 17 Apr 2004 VOL 140 ISS 17
FILE LAST UPDATED: 16 Apr 2004 (20040416/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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